

Listing of the Claims

1. (Currently Amended) A method for carrying out emission spectrometry, in particular laser emission spectrometry,

in which a pulsed laser beam is ~~focussed~~ focused automatically on a workpiece to generate a laser-induced plasma,

in which the radiation emitted by the plasma is detected and elemental analysis is performed with the detected radiation spectrum,

wherein

prior to generating the plasma, in addition to determining the distance d of said ~~auto-focussing~~ auto-focusing optic from the surface of said workpiece, additional geometry parameters $P_1, P_2 \dots P_N$ of a potential measuring location on said workpiece surface are determined,

and an elemental analysis is performed for only the potential measuring locations where at least one of said additional parameters lies within a predefined tolerance range $[T_1 \dots T_2]$.

2. (Original) A method according to claim 1,

wherein the angle of incline α of said workpiece surface to the axis of said laser beam present at the potential measuring location is determined as a geometric parameter.

3. (Original) A method according to claim 2,

wherein a correction of said emission spectrum is performed if a measured angle of incline α deviates from the predefined value α_K .

4. (Previously Presented) A method according to claim 1,

wherein prior to plasma inducement, a profile of at least part of said workpiece surface is determined by means of a triangulation process and from said surface profile said additional geometric parameters are calculated.

5. (Previously Presented) A method according to claim 1,

wherein a plasma is induced only at those locations at which all said predefined geometric parameters lie within said tolerance range.

6. (Previously Presented) A method according to claim 1,

wherein the predefined geometric parameters concerning type and tolerance range correspond to those geometric parameters of which a calibration curve had been plotted.

7. (Previously Presented) A method according to claim 1,
wherein said laser beam is deflected transverse to the direction in which said test object is moving.
8. (Previously Presented) A method according to claim 1,
wherein parts moving on a belt are measured.
9. (Previously Presented) A method according to claim 1,
wherein scrap aluminum or scrap electric parts are measured.
10. (Currently Amended) A method for carrying out emission spectrometry, in particular for carrying out laser emission spectrometry according to claim 1,
in which, to generate a laser-induced plasma, a pulsed laser beam is automatically ~~focussed~~
focused on a workpiece,
in which the radiation emitted by the plasma is detected and elemental analysis is performed using the detected radiation spectrum,
wherein laser beam impingement occurs with an adjustable pulse interval ΔT .

11. (Original) A method according to claim 10,
wherein the ΔT values lie within a predefined tolerance range $[\Delta T_{\min} \dots \Delta T_{\max}]$.
12. (Previously Presented) A method according to claim 10,
wherein if a detection device detects a test object, a shorter pulse interval is selected than if no test object is detected.
13. (Previously Presented) A method according to claim 10,
wherein if said detection device detects no test object a pump pulse is released but no laser pulse is released.
14. (Previously Presented) A method according to claim 10,
wherein said pulse interval ΔT is set individually for each pulse.
15. (Previously Presented) A method according to claim 10,
wherein the limits of said tolerance range ΔT_{\min} respectively ΔT_{\max} are determined individually for each pulse.

16. (Previously Presented) A method according to claim 10,

wherein the pulse interval $\Delta T_{\text{average}}$ lying in temporal average varies by a desired value $\Delta T_{\text{desired}}$.

17. (Currently Amended) A device for emission spectrometry, in particular for laser emission spectrometry, comprising a pulse laser for generating a laser-induced plasma on a workpiece, an ~~auto-focussing~~ auto-focusing device for the laser beam, a detector for detecting the radiation emitted by the plasma and a device for carrying out elemental analysis,

wherein a unit for deflecting said laser beam ~~and/or a means for measuring the sample surface transverse to the direction in which the test object is moving~~ are provided.